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CONTENTS

ORIGINAL ARTICLES

Modern Aspects of Hypertension. Clifton Briggs Leech, M.D. 187

A Case of Double Vagina, Uterus and Bladder. Reuben C. Bates, M.D. 192

Clinical-Pathologic Conference 193

Contents continued on page IV advertising section.

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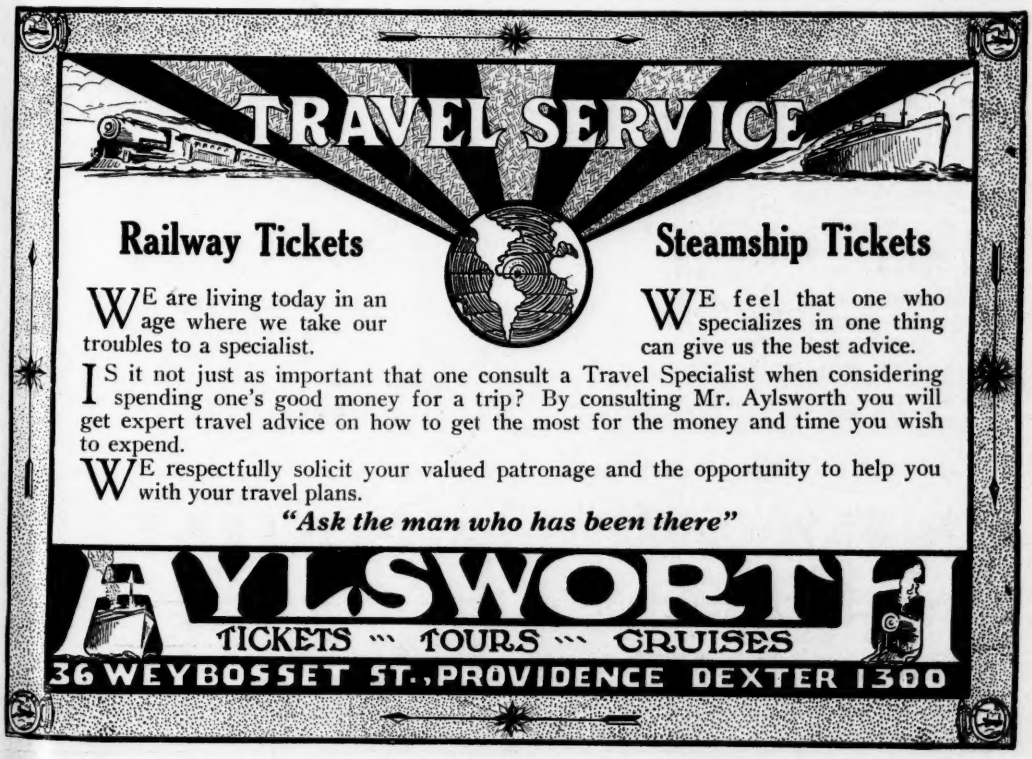
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	Grams	Prot.	Fat	Carb.	Cal.
2 teaspoons Knox Sparkling Gelatine	4.5	4	..	..	..
¼ cup cold water	..	..	..	..	..
½ cup hot water	..	..	..	..	..
½ teaspoon salt	..	..	..	..	..
¼ cup vinegar	..	..	..	..	..
1½ cups grated cheese	150	43	54	..	..
½ cup chopped stuffed olives	70	1	19	8	..
½ cup chopped celery	60	1	..	2	..
¼ cup chopped green pepper	25	..	..	1	..
½ cup cream, whipped	75	2	30	2	..
Total		51	103	13	1183
One serving		8.5	17	2	197

Soak gelatine in cold water. Bring hot water and salt to boil and dissolve gelatine in it. Add vinegar and set aside to chill. When nearly set, beat until frothy, fold in cheese, olives, celery, pepper and whipped cream. Turn into molds and chill until firm. Unmold on lettuce leaf and serve.

SPANISH CREAM *(Six Servings)*

	Grams	Prot.	Fat	Carb.	Cal.
1 tablespoon Knox Sparkling Gelatine	7	6	..	..	..
¼ cup cold water	..	..	..	..	..
1 cup milk	240	7	10	12	..
¾ cup boiling water	..	..	..	..	..
2 eggs	100	13	10.5	..	..
1½ teaspoons vanilla	..	..	..	..	..
Few grains salt	..	..	..	..	..
Total		26	20.5	12	336.5
One serving		4	3	2	56

Soak gelatine in cold water five minutes. Heat water and milk over boiling water, add gelatine and stir until dissolved. Separate eggs and beat yolks until lemon colored. Stir gelatine mixture slowly into egg yolks. Return to stove and cook over boiling water until mixture begins to thicken. Remove from stove, add vanilla and salt and chill. Beat egg whites until stiff and fold into jelly when almost set. Mold and chill until firm.

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ORIGINAL ARTICLES

MODERN ASPECTS OF HYPERTENSION*

By CLIFTON BRIGGS LEECH, M.D.
211 ANGELL ST., PROVIDENCE, R. I.

This presentation is not intended as an address to specialists in cardiovascular disease but rather as a brief discussion of some of the modern ideas about hypertension which may be of interest to all practitioners of medicine.

That there had been a steadily increasing concern about elevation of the arterial blood pressure was noted in 1915 by Janeway[1], who found over one thousand references in the literature, only twelve of which antedated 1886. At the present time there are about three thousand such titles in the index medicus.

Arterial hypertension may be defined as a disturbance of function whereby the pressure produced by the heart driving against peripheral resistance is raised above the normal level. While the normal level is a varying figure, it has been generally agreed by authorities to consider 140 m.m. of mercury as the upper limit of normal systolic pressure in persons under forty years of age, and 150 m.m. of mercury as the limit of normal for those older than forty years. The corresponding limits of diastolic pressure are considered to be 90 and 100 m.m. of mercury, respectively. Both factors, the force of the heart and the amount of peripheral resistance, are important, since the heart force alone cannot maintain the function of glandular organs such as the kidneys nor can normal pressure be maintained against the maximum peripheral resistance if the heart muscle is weak. The peripheral resistance occurs chiefly in the precapillary vessels, the arterioles, and the amount of this resistance varies with the degree of contraction in these vessels. Although it has been shown that the caliber of the arterioles is dependent upon the control exercised by the vasomotor system, which has centers in the medulla and in the cord, yet the precise manner in which this vasomotor activity is governed is not known apart from a number of more or less unrelated facts. The heart is provided with a mechanism which tends to protect itself against the strain of hypertension by means of a depressor nerve which joins the heart to the medullary vasomotor center, stimulation of which results in diminution of arteriolar tone with relief to the heart. Unfortunately this natural protective device is not sufficient to prevent the occurrence of clinical hypertension.

There are three general types of hypertension, the least common of which is that associated with renal disease. In about ten per cent of patients with high blood pressure kidney disease seems to be an etiological factor, the prevention and treatment of which offer problems of their own. A second kind of hypertension occurs in patients who have actual arteriolar sclerosis with thickening of the media and hyperplasia of the intima as described by Gull and Sutton[2] in 1872 and since confirmed by many investigators. Hypertension due to this cause is seen commonly in people who are well along in years, but is not confined to the aged, and is often accompanied by general arteriosclerosis. Frequently this sort of vascular lesion is unaccompanied by a marked rise in blood pressure, due to a concomitant weakening of the myocardium. It is obvious that increase in peripheral resistance due to narrowing of the arteriolar channels by sclerosis is permanent and not readily amenable to treatment directed at the state of the vessels.

The third type, the most common, important, most interesting, and which seems to present the best opportunity for successful treatment, is known as essential hypertension. It occurs in patients free from marked vascular sclerosis and demonstrable kidney disease. The elevation of pressure is thought to be produced by continuous contraction of the arterioles brought about by substances acting directly upon the muscles of the vessel walls or upon the vasomotor centers. Such substances may be chemical in nature as, for example, adrenalin. Although it is known that adrenalin injections in humans do increase the blood pressure yet there is no good evidence that clinical hypertension is caused in any way by this substance.

*Read before the Pawtucket Medical Association June 18, 1931.

There has been a good deal of study and speculation about another chemical substance, methyl guanidine. Dr. Major and his associates have shown that it is a true pressor agent, and it may be that excessive accumulation in the blood of this product of protein metabolism has something to do with clinical hypertension but the evidence for this is not very conclusive. Animals in which a total nephrectomy has been performed and in which methyl guanidine is expected to be rapidly stored up do not develop marked elevation of the blood pressure levels.

Excessive ingestion of protein has long been cited as a cause of high blood pressure and yet there is no proof, either clinical or experimental, that this is true except perhaps in the cases associated with renal disease. It is possible that restriction of protein ingestion is advisable in patients who have recently had nephritis or even the mild kidney inflammation which accompanies acute infectious diseases. It may be that such restrictions do help prevent the renal type of hypertensive disease. The amount of protein intake seems not to affect the other types, however.

There has been conjecture about the role played by pressor agents formed by bacterial action in the gut: there is nothing proven concerning these theories of autointoxication.

The substances acting upon the arterioles or their controlling nerves may be neurogenical. It is well known that acute pain increases the blood pressure, and yet sufferers from chronic, painful disorders do not characteristically have hypertension. There is a general agreement, however, that certain other neurogenical stimuli do cause acute elevation of the blood pressure and do act as definite factors in the development of clinical hypertension: these stimuli are fear, worry and mental fatigue.

There are local factors which seem to play a part in hypertension. Bordley and Baker[3] studied the autopsies of twenty-four patients with general arteriosclerosis. Fourteen of these had high blood pressures during life and each of the fourteen had sclerosis of the vessels in the medulla. The other ten did not have hypertension nor did they show sclerosis of the medullary vessels. Bordley and Baker did not argue that the hypertension in the fourteen was caused by the medullary vascular changes but rather that a compensatory rise in the systemic blood pressure was provided in order to improve the blood supply in the damaged medulla. Similar bits of evidence abound in the literature to show that there are many factors which may affect the blood pressure.

Backer[4] has called attention to the many and varying stimuli which affect the autonomous innervation of the arterial system. Many people are subject to these stimuli but comparatively few become hypertensive. Why, out of a hundred doctors bearing equal burdens of care, responsibility, worry and fatigue, should only a small number develop high blood pressure? Backer suggests that there must be another factor than the stimulus, that the constitution of the vegetative nervous system, possibly correlated with other constitutional abnormalities, may determine the results of the stimulus. In other words, it seems that there may be a group of vulnerable individuals, potential hypertensives, who cannot bear, without the development of increased arterial tone, the stressful influences of life which are endured harmlessly by the fortunate majority.

Jensen[5] of St. Louis studied the effect of adrenalin injections on the blood pressures of hypertensive and normal individuals with the following results: normal persons have a slow rise and slower fall of blood pressure, and later injections cause a quicker response but no higher rise: hypertensives respond by a brisk and marked rise, although not always to the first injection. The diastolic pressure decreased after all injections but took longer to return to normal in the hypertensive patients. Jensen found that the response was not due to the level of the blood pressure, the state of the heart or kidneys, nor to peripheral vasoconstriction but was thought to be related to the instability of the hypertensive blood pressure. May not this instability, as demonstrated in the laboratory, constitute, in part at least, the very vulnerability which, in its end-results, leads to the signs of clinical hypertension?

Although there still must be speculation concerning the fundamental mechanism of essential hypertension yet facts are accumulating in regard to the clinical nature of the disorder. Analyses of large series of hypertensive patients compared with control groups have confirmed certain old ideas and refuted others. Nuzum and Elliott[6] found very little evidence that focal infection has much to do with hypertension. Familial tendency was found by these authors to play a minor part but they noted that obesity was twice as common in hypertensive

as in normal people. Hyperthyroidism has not been found to be a significant factor. An increase of seventy-five per cent in the metabolic rate causes about a five per cent rise in the blood pressure. Fever seldom affects the blood pressure greatly: it usually lowers the systolic level.

Hospitalization of itself produces an average drop of twenty m.m. in the systolic pressure, according to Nuzum and Elliott. Ayman[7] has called attention to the great variability of the blood pressure in hypertensive people and has cautioned in regard to the danger in evaluating the therapeutic effect of drugs. Stieglitz[8] thinks that the instability of the hypertensive pressure levels constitutes a prognostic sign. He believes that patients with the greatest variation in pressure are those who have the least in the way of permanent damage in the arterioles and are, therefore, the most amenable to treatment. He suggests a test consisting of the inhalation of amyl nitrite following which many patients have an immediate drop in pressure, sometimes as great as sixty or more m.m. of mercury. How valuable this test is as a prognostic sign has not yet been determined, but I am sure that some patients with considerable arteriolar sclerosis have responded to this procedure with marked drops in the blood pressure.

Retinitis, including edema of the disc, is a valuable prognostic sign. The retinitis of hypertension has been described by Keith[9] as occurring roughly in four more or less characteristic stages. In the first stage there is mild edema of the disc and a few superficial areas of hemorrhage and exudate. In the second stage the edema spreads into the macula region and periphery and there are more numerous areas of hemorrhage and exudate. The third stage shows a recession of the edema from the peripheral portions of the retina and replacement by spots of proliferated pigment. Punctate exudates are present and sclerosis of the retinal arteries becomes evident. In the fourth stage the disc is pale and blurred, and only a few small punctate exudates remain, usually in the macular region, but there are numerous areas of proliferated pigment and there is perivascular thickening along the walls of many of the vessels. These four stages represent the severity as well as the age of the hypertension and they convey considerable information to the examiner accustomed to looking for it. It seems quite obvious that in the case of a man of fifty years, for example, with a systolic blood pressure of two hundred m.m., known to have existed for five years, without abnormality in the eye grounds, the prognosis is better than in the case of an otherwise similar patient whose eye grounds show a second or third stage retinitis. The latter patient possesses a more vulnerable vascular system, apparently.

About twenty per cent of hypertensive patients have a more or less characteristic electrocardiogram consisting of "high voltage" curves. This usually indicates a long standing hypertension with a poor prognosis and sometimes it is about the only helpful sign present aside from the level of the blood pressure[10].

The well known teleoroentgenogram of a long standing hypertension shows an enlarged heart, hypertrophied left ventricle and a tortuous aorta, not usually dilated, with a prominent aortic knob.

The French, in particular, have thought that lues is a great factor in hypertension but the present conception of it as an arteriolar disease does not conform to the syphilitic pathology nor do luetic arteriolar lesions resemble those of hypertension. A study by Horine and Weiss[11] of Louisville of 666 patients with essential hypertension and of a control group of 2,000 patients of similar age and environment showed the same incidence of lues in both groups. Syphilis does not appear to be an important factor.

In women the menopause often seems to bring about a form of essential hypertension which, though frequently accompanied by distressing symptoms, seldom seems to do serious damage to the vascular apparatus. In general it may be stated that women withstand hypertension better than men do.

Aware of the unfavorable attitude of life insurance companies toward applicants who have increased blood pressure, I asked one of the large companies whether statistical evidence was available in regard to the mortality among such applicants. In reply I received a table covering 2,230 applicants during an eight-year period. These persons were grouped according to increase in blood pressure above the average level for their ages as estimated by insurance companies. In a group of 133 persons having systolic levels from ten to fourteen m.m. over the average for their ages the mortality was 114.06 per cent of the expected. The expected mortality was progressively exceeded in the groups with successively higher levels until in the final group of 226 applicants, with systolic

pressures sixty m.m. or more above the average for the age, the deaths were 450.02 per cent of the expected. These figures seem to constitute adequate reason for pessimism on the part of life insurance medical examiners, but further analysis of the table revealed a more favorable aspect. The expected deaths, during the eight-year period, among the 226 applicants with such a definite hypertension, were eight. The actual deaths were thirty-eight (450.02%). Obviously, there were one hundred and eighty-eight applicants who did not die, a sufficiently high figure to justify the optimistic viewpoint which should characterize the attitude of the physician toward the hypertensive person. In the interest of the psychological effect upon both doctor and patient it may be well that the individual prognosis is often obscure, since, in the light of the evidence just cited, the mathematical chances for at least eight years of life are approximately five to one!

The great number of methods of treatment of hypertension testify to the lack of virtue in most of them. Certain procedures do possess a definite rationale. One of these is blood letting. The volume of the blood is one of the least important factors in the development of hypertension, and the clinical variation in blood volume, even in diseased states, affects the pressure levels but slightly. Artificial interference with the amount of blood in the circulation is another matter, however, and the removal of a sufficient quantity of blood will usually reduce an elevated pressure and give relief to symptoms. While venesection is merely a temporary and mechanical method, yet it is a useful, sometimes life-saving, operation. In the hypertension of eclampsia the letting of very large amounts of blood (up to one liter) is often required in order to reduce the pressure by this means. Lumbar puncture and removal of spinal fluid may give relief to cerebral symptoms when other measures fail.

The salt-free diet, advocated by Allen, has been a disappointment to most other authorities. Allen declares that the diet must be entirely free from salt, and he attributes the failure of others to duplicate his favorable results to the small amounts of salt naturally present in some of the food stuff. Critics of the salt-free diet say that it is the institutional regime which benefits the patients and that this diet is unimportant except as its lack of savor tends to lessen the food intake and thereby to reduce obesity.

Vaccines, foreign proteins, hydrotherapy, diathermy, carbon arc radiation, radium emanations and many other types of therapy have been tried. There is nothing sure about any of them. In certain patients anything seems to work favorably.

Lowering of the blood pressure by drugs may be attempted in three ways:

1. By regulation of the activity of the vasomotor centers.
2. By decreasing arteriolar tone.
3. By depression of the heart action.

It is seldom wise to use the third method but the use of sedatives to depress the vasomotor centers has been a common and valuable practice for many years, particularly the use of the bromides. It is not commonly known, however, that very small doses of potassium bromide actually have a vasodilating action. Many other vasodilators have been used with varied effect. Among the drugs which have been used to reduce the blood pressure are phenobarbitol (luminal), choral, bromides, nitrites, benzyl benzoate, calcium chloride, liver extract, insulin, thyroid and parathyroid extract, mistletoe, salicylates, watermelon seed, belladonna, aconitine and acetylcholine. The last named drug produces marked lowering of the blood pressure in animals but has no similar effect in man.

Based upon the theory that cholesterol is the chief physico-chemical factor involved in the development and persistence of contraction in the smooth muscle cell of the arteriole Westphal[12] used sulphocyanate as an agent for dissolving the cholesterol and bringing about relaxation of the vascular musculature. Sulphocyanate occurs in the blood of healthy people in amounts normally from 0.15 m.gm. to .06 m.gm. per 100 c.c. of blood. It is excreted in the urine and saliva, and since sulphocyanate dosage increases the amount in the blood its use is contraindicated in the presence of renal insufficiency as shown by blood chemical and reliable kidney function tests. Albumin and casts in the urine do not constitute contraindication. Gager[13] and others report very favorable results from its use. In order to avoid accumulation the recommended dosage is one and one-half grains in water T. I. D. for one week, B. I. D. for another week, and once daily for a third week. It can then be judged whether to increase the dosage. Certain people appear to be especially susceptible to sulphocyanate and in such persons larger initial amounts of the drug are apt to produce distressing symp-

toms. Recently there have been in the literature a number of articles critical of sulphocyanate therapy. Criticism has been based upon toxic effects and upon failure of the production of a uniform reduction in blood pressure. None of these critical reports were based upon large series of patients and in none of the studies did it appear that the effects of small doses of potassium sulphocyanate, progressively increased, were carefully watched. Many of the reported patients received doses which were so large as to almost certainly cause toxic symptoms. Also, some of the critics used other forms of the drug than pure potassium sulphocyanate. It is doubtful whether anyone claims a uniformly successful action for this medicine, but if, carefully and intelligently prescribed, it is found to definitely reduce hypertension in more than a coincidental number of patients, then it represents a valuable addition to therapy, especially in the case of ambulatory patients. The answer is not yet certain. Study of a large series, treated according to the method of Gager, is needed to clear up this uncertainty. How often potassium sulphocyanate is of service I do not know but I feel sure that it has been beneficial in a few of my patients who failed to respond to other drugs. I am equally sure it was without good effect in other patients.

The effect of sodium nitrite has been carefully studied by Weiss and Ellis[14] who found that from one to five grains of this drug by mouth in man lowers the blood pressure by an abrupt fall of the systolic level, and less abrupt of the diastolic, within ten minutes of its administration. The pressure may remain lowered for a period varying from ten minutes to three hours. There is great variation in the effect of sodium nitrite in different people and in the same person at different times. Weiss and Ellis pointed out that these sudden drops of pressure with repeated relaxation of arterioles which are sclerotic or otherwise damaged cannot be beneficial and are not ideal even in pure essential hypertension. These authors had noted an occasional cerebral accident co-incident with the beginning of nitrite ingestion.

A unique form of nitrite therapy has been suggested by Stieglitz[15] who says that anything that irritates the arteriolar musculature or stimulates the sympathetic pressor fibres may be the original cause of a hypertension which, once started, tends to perpetuate itself even after the removal of the cause. Stieglitz believes that vascular spasticity produces fatigue of the muscles in the vessel walls, that these muscles become increasingly irritable and thereby become more spastic and fatigued. This vicious cycle continues until the fatigued arterial muscles degenerate and become fibrotic and sclerotic. Stieglitz points out that the vascular degeneration is irreparable but that since fatigue is amenable to rest it is possible to break in on the vicious cycle by sufficiently prolonged vascular rest which, combined with removal of the irritating cause, abolishes the hypertension. To produce this prolonged rest for the blood vessels a slowly soluble, slowly absorbed nitrite, liberating the nitrite ion (No_2) into the blood stream in small amounts, is desirable. Such a substance is bismuth subnitrate which is slowly decomposed in the bowel, liberating the nitrate ion (No_3). The nitrate is reduced by Bacillus coli to nitrous acid, and minute quantities of nitrite ions are continuously absorbed. This absorption, according to Stieglitz, is equivalent to the oral administration of minute doses of nitroglycerin at ten or fifteen minute intervals throughout the day and night. There is also a diuretic effect with the nitrite ions detectable in the urine. The dosage used by Stieglitz is ten grains T.I.D. for several weeks or months with gradual reduction in amount. He has used this method for over five years and has studied its effect in more than two hundred cases of hypertension. Other investigators have not yet published their results with this treatment.

In a survey of the literature of hypertension it is notable that emphasis is usually placed upon the systolic level of pressure with scant discussion of the diastolic figure. Ordinarily there is justification for this, I think, but it must be borne in mind that the diastolic pressure, representing the "rest load" of the heart, is important, and an analysis of the results of treatment should take both levels into consideration.

One cannot avoid the realization, after a review (even so brief as this one) of our present ideas, that the *management* of hypertension is, perhaps, more important than the drug treatment. Even the extent to which the pressures should be reduced is a matter of opinion. There are those who think that hypertension is but an expression of a general condition in which the increased arterial tone is a compensatory phenomenon to aid in the maintenance of function: undue interference with the elevated pressures is harmful. In spite of the multi-

plicity of *ideas* real advance has been made in the understanding and in the handling of high blood pressure as a disease. The general practitioner ought not to be confused by the wealth of argument but should attempt to use intelligently the accumulated bits of evidence. The day of haphazard treatment is past. Let the general practitioner, as well as the specialist, analyze his own series, combining with management the study of one particular drug: let him do this and the situation will be clarified much sooner than otherwise.

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A CASE OF DOUBLE VAGINA, UTERUS AND BLADDER*

By REUBEN C. BATES, M.D.

The following case possesses great interest, on account of its anomaly and rarity. This was the result of a congenital freak. The body was that of a female white infant weighing four pounds and presenting many congenital deformities. Externally there was found one anus situated to the right of the midline and this connected with one sigmoid. There were two vaginas and two well developed clitorides. The labia on the outer sides were apparently normal. On each side the urethra emptied into a bladder and upon further dissection it was found that there was a ureteral opening into each bladder. There was a kidney and adrenal on each side. We could find no connection between the bladders.

Besides the above described anomalies there was found complete exstrophy of the abdominal viscera, anencephaly, spina bifida and talipes equinovarus. There was complete separation of the pelvis anteriorly through the midline, thus completely separating the parts involved in the doubling.

Meckel, Boehmer, and Callisen are among the older writers who have observed double uterus with associate double vagina. More recently Woods, Rosenfeld, Stuckney and others have described this condition. Hinckle in 1928 described a case of double anus, vagina and uterus, also double bladder and urethras.

Bartholin published the first case of bladder exstrophy in 1670. The condition is usually accompanied by various genito-urinary deformities, one of the commonest being that condition known as "split pelvis." The origin appears clearly to be teratologic and due to failure of development during embryonal life.

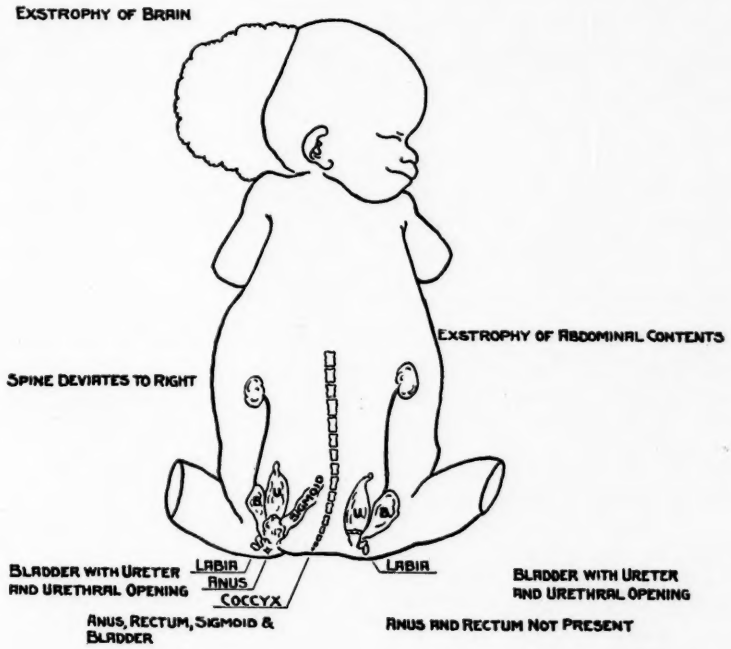
Roentgenograms were taken at the Rhode Island Hospital and Dr. Batchelder's report follows:

Roentgenograms of the spine showed an anomaly in the vertebrae with an extra portion of the body of a vertebra on the right. There were twelve ribs on each side, but on the left the first rib is a cervical rib and rudimentary, and the last arises from a segment one higher than that on the right. There was

*From the Pathological Department of the Providence Lying-In Hospital. Presented at a meeting of the staff, June, 1931.

also a developmental defect with absence of the left lateral mass of the vertebrae in the region of the lower lumbar or upper sacral region. The entire left side of the pelvis is displaced upward so that the crest of the ischium is at the level of the lower border of the first lumbar vertebra. Duplication of any portion of the skeletal system was not shown in the roentgenograms.

122 Waterman St., Providence, R. I



CLINICAL-PATHOLOGIC CONFERENCE

Tuesday, October 13, 1931

Case presented by Dr. Edward S. Cameron. The following mimeographed history was passed out.

E. D. Age 39. Occupation, housewife. Admitted August 2, 1931.

C. C. Generalized abdominal pain.

P. I. Patient says that she awoke from sleep about 10:00 P.M. last night and had severe abdominal pain. It was generalized and also some in back. She tried to vomit, but did not. This morning she vomited two or three times, a whitish, yellowish material. No blood. The pain has continued and has become more severe. She says that it hurts her to take a deep breath.

About four weeks ago she started to drink some "white mule moonshine" and claims that she has taken about one pint per day since then. About three weeks ago she started having abdominal pain, rather generalized. At that time the pain became very bad and she says that her abdomen was "swollen and very stiff" and says she felt very much as she does now. This lasted about one week.

She says that she sometimes sees "ducks and things" on the walls after having been drinking a lot.

She says that until P. I. she has not been drinking much for two and one-half years.

She had more liquor yesterday and some this morning, in the hope of feeling better. Bowels moved yesterday and were not remarkable. She has had some leukorrhea for many years.

In 1926 she had an abdominal operation in Worcester and says that her appendix was removed and that her tubes were found all twisted.

She says that her periods have been regular and that the last one began July 4th and was normal.

Continued on page 195

THE RHODE ISLAND MEDICAL JOURNAL

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EDITORIALS

CONCERNING DR. CHAPIN

That a prophet shall for once be not without honor in his own country the JOURNAL wishes, as the time for his retirement from active service approaches, hereby to emphasize the respect and affection which we of the medical profession bear to our honored colleague and friend, Charles V. Chapin. We are all familiar with his work, whose value to humanity has been so long known to the whole world. We are proud not only of the work itself but of the modest, simple and straightforward way in which it has been accomplished. We wish for him as the burden of routine work which has grown no lighter in the long years through which he has carried it is lifted from his shoulders, a period of mental and physical comfort and restful satisfaction in the knowledge of a job well done. To all of us, his fellow workers in the broad field of medicine, as well as to all his fellow citizens throughout the State it is apparent that we honor ourselves in doing honor to the greatest Rhode Island physician who has yet lived.

MEDICAL TESTIMONY

Medical men have long been criticized for their failure to assume leadership in medical matters. The justice of such criticism is readily apparent when we identify the sponsors of all great medical movements as being of the laity rather than of the profession. It is true the medical profession has been responsible for carrying on these movements but there has been a paucity of original ideas for constructive work. The reason for the lack of initiative on the part of the doctor is hard to understand and seems unnatural.

A jurist has recently spoken of conflicting evidence given by doctors in court work. We have been told by jurors that in certain cases the whole medical testimony, which was important, was so confusing that it was entirely disregarded by them. The jurist suggested a remedy which in itself seems plausible enough and so far as the medical profession is concerned, should work. It probably will be welcomed by doctors with a long sigh of relief.

But how would the legal profession feel about such a matter? How would learned counsel for one side or the other feel when they find that simple medical truths are to be given in court in a comprehensible manner? We agree that the proposed remedy is good in that it is more likely to get understandable medical testimony before the court than the present method. The medical profession, however, has no power to force such an innovation on the legal profession. The medical profession is likely to welcome any plan that will enable doctors to testify trustworthily and in simple language without fear of being harassed by meticulous counsel.

CANCER CLINICS

The problem of the control of cancer is growing increasingly complex as new methods of diagnosis and treatment are being developed constantly in the special cancer institutes and hospitals. So great is the complexity that the individual surgeon cannot hope to give to his cancer patients all the benefits of modern knowledge in this field unless he co-operate with the radiologist and the pathologist, and with men having special experience in the various fields of cancer surgery. A realization of these facts is leading to the establishment of groups for the diagnosis and treatment of cancer; such a group may make up the staff of a hospital entirely devoted to work with cancer patients, or it may take the form of a cancer service or clinic in a general hospital. The first type of group is well exemplified at the Memorial Hospital in New York and the Huntington Hospital in Boston, but it is necessarily limited to large centers. The second type can and should be established in every large city in the country, in connection with an already existing general hospital.

The American College of Surgeons is doing a valuable piece of work in bringing to the attention of the profession this great need. In a recently published bulletin[1] its Committee on Treatment of Malignant Diseases has outlined a minimum standard for such clinics. This standard makes provision for proper organization, for frequent conferences, for the reference of patients to the clinics, for adequate equipment for all forms of therapy, for proper records to make available the knowledge gained, and for satisfactory treatment of all patients. At the present time Rhode Island has no such clinic. It is to be hoped that we shall soon find it possible to establish a service for which there is such an urgent need.

1. Organization of Service for the Diagnosis and Treatment of Cancer—A Minimum Standard: American College of Surgeons, June, 1931.

CLINICAL-PATHOLOGIC CONFERENCE

Continued from page 193

F. H. (from husband). Father dead, unknown cause. Mother living and well. One brother and three sisters living and well. Two brothers dead (one of asthma), one sister dead, unknown cause.

Marital. Married 26 years. Husband living, is alcoholic. Husband says she has no children and has never been pregnant.

Physical Examination

A well developed and fairly well nourished female adult lying in bed with rapid grunting respirations and complaining of very severe abdominal pain.

Head. Not remarkable.

Eyes. React to light and distance.

Chest and Breasts. Negative.

Lungs. Respirations short and rapid. There is some diminishment of resonance at right base and

in right axillary line with very peculiar breath sounds. They are distant and have a tubular quality.

Heart. Sounds rapid, but of fair quality. Blood pressure 145/100.

Abdomen. Lower midline scar. Peculiar shape (upper half is scaphoid, lower half distended). There is board-like rigidity and apparently the entire abdomen is extremely tender but perhaps mostly so in r. l. quadrant. No obliteration of liver dullness can be made out. No shifting dullness made out. Some peristalsis heard.

Extremities. Not remarkable.

Skin. Extremities are extremely cold and "clammy."

Impression. 1. Perforated peptic ulcer. 2. Acute alcoholic gastritis. 3. Pathology at base of right lung.

Blood pressure 145/100. W.B.C. 23,200. Polymorphonuclear 91%.

Pre-operative Diag. Ruptures peptic ulcer.

Operation. Exploratory laparotomy August 3, 1931.

Four-inch right rectus muscle splitting incision (upper). Abdomen found full of greenish, yellow, thin, purulent material. Stomach was considerably distended, as was duodenum. No ulcer could be palpated in any part of stomach or seen or felt in duodenum. Kidneys seemed normal. No masses made out in region of appendix. Many dense adhesions between parietal anterior peritoneum and viscera in region of abdomen below umbilicus. Gall bladder distended, no stones felt, no adhesions. No fat necrosis. Drain inserted in right kidney pouch. Wound closed in layers.

Post-operative Diagnosis. General peritonitis (cause unknown).

Post-operative Note. Patient's condition grew gradually worse. Very restless and much disturbed mentally. Gastric Lavage and Lavine tube left in for vomiting. Died at 7:45 P.M., about twenty-four hours after admission to hospital.

Discharge Diagnosis. Alcoholism acute. General peritonitis.

DR. CAMERON: "I want to say a few words about this case and then Dr. Ferguson will discuss it. Dr. Ferguson saw this case the night of admission but he does not know anything about the final outcome. I have also asked Dr. Baldridge to say a few words. He gave the anesthesia.

"This patient says that she was awakened from sleep, etc., as in P. I. on sheet. Her husband accompanied her to the hospital and he was more ethylated than she. About three weeks ago she started having abdominal pain, rather generalized. I think this an important fact. She says she felt very much the same as she does now. This lasted about one week. We considered that in the history and we will see later on if that had any bearing.

"The abdomen was certainly a surgical abdomen. She was stiff throughout but seemed to be protuberant below the umbilicus. There was a point of tenderness in the r.l.q. She had plenty of fluid in her right peritoneal cavity. On listening with the steroscope peristalsis could be heard. It was not a so-called silent belly. She also had a scar of a previous operation as mentioned on the sheet. Our diagnosis was:

"Perforated peptic ulcer?

"Acute alcoholic gastritis?

"Some pathology in the right lung?

"Considerable pressure was brought to bear in the way of making a diagnosis of alcoholic gastritis. Some cases with a somewhat similar story have been opened and nothing was found in the peritoneal cavity. This one with a story (which we could not understand at the time) of a three weeks previous, somewhat similar attack seemed different. It seemed wise not to delay. The W.B.C. was 23,200, Polys 91%. At operation I expected to find a perforated duodenal ulcer. We found the belly full of greenish yellow, thin, purulent material."

Q.: "Was this fluid bile stained?"

A.: "No, I should say not. The belly was well distended. We found no evidence of ulcer, no perforation, I could feel nothing in the duodenum and as far as I could see there was no fat necrosis. The gall bladder was normal and I explored down in the region of the appendix and I felt pretty sure there was no appendix there. She was very sick at the time. When I tried to explore down lower there was a wall of adhesions and it seemed unwise to explore any further so we put a drain into the kidney fossa.

"Postoperative diagnosis: General peritonitis, cause unknown. She grew worse, became delirious, she vomited a good deal and died at 7:45, about eight hours after operation."

Q.: "Was there any odor in the fluid?"

A.: "No, as I remember it was an odorless fluid."

Q.: "After you finished the operation did you have any impression about the general diagnosis?"

A.: "I thought she had a general peritonitis but as for the cause I did not know. I did see some bubbles coming from lower down and thought she had a perforation that I had missed. She was in pretty bad shape. I could not get down in the pelvis at all."

Q.: "Was the picture that of a perforation somewhere?"

A.: "Yes, inside she had fluid and a few bubbles which I thought came from deep in the abdomen somewhere."

Q.: "Was the pelvis examined before operation?"

A.: "There was no note of it and I don't remember that it was."

Q.: "Did she vomit before operation?"

A.: "Yes."

Q.: "What was the culture of the fluid?"

A.: "I could not find it and I could find no urine report. She was a very acutely sick woman, drinking a lot. It says that she vomited three times on the morning of the operation. I have forgotten exactly but I think she vomited after she came to the hospital. I don't recall about the liver. There was nothing that impressed us very much."

Q.: "Did you look to find anything about the appendix?"

A.: "My incision was an upper right rectus and I could find nothing that could be seen to be an appendix."

Q.: "Then was your impression that she had the appendix out? There was nothing down in that region?"

A.: "No, there was not a thing. I could feel the adhesions."

Q.: "Were these adhesions fresh?"

A.: "No, they seemed like old adhesions."

DR. FERGUSON: "I saw this patient about midnight with an absolutely rigid abdomen. I thought at once of a perforated ulcer or mesenteric thrombosis but, in addition, this patient had been drinking. About three weeks ago I had a man come in with a rigid abdomen and all he had was an acute alcoholic poisoning from drinking 'white mule.' I thought we could rule out acute ruptured gall bladder. The fact that she had this pain a week or two ago could be very well brought about by a small leak by a gastric ulcer and the second acute pain would be the secondary rupture of a small abscess. The abdomen looked exactly like the finding of an acute ruptured gastric ulcer. The operation discovered no cause but I should think she had something that was not found at the time of operation. It seems the picture of a perforated viscus."

DR. BALDRIDGE: "I gave the anesthesia. We used spinal anesthesia. I remember that unlike most anesthesias her respirations were rather labored and her pulse instead of going down held up. I was instrumental in urging Dr. Cameron to put a drain in because her pulse held up about 120. Her blood pressure did not go down. It was about 90/70. There was nothing remarkable about the anesthesia side of the picture except that her pulse began to climb."

Demonstration of Postmortem Findings

DR. CLARKE: "The postmortem was limited to the abdomen so we cannot tell whether or not there was a pneumonia. When the body was opened, the abdomen was filled with a thin, brownish, purulent material. All of the usual sites of the cause of a generalized peritonitis were examined carefully. The appendix was gone. The gall bladder was quite normal. There was no ulcer, perforated or otherwise, in the stomach or in the duodenum. The pelvis was filled with old adhesions, very old. I think they dated back much beyond a three-week period. She had had some time a pelvic peritonitis. This peritonitis in the pelvis involved the gut. Dr. Henderson then ran his hand down into the pelvis and something sharp went through his glove. He investigated more carefully. Within the ileum in this mass of adhesions there was, in one loop, a foreign body which had perforated and protruded through the gut wall. The remainder still remained within the lumen of the gut (shows the specimen). At the time of postmortem it was thought to be a piece of bone but later on when we cut it it was found to be a piece of wood. Where it came from we don't know. The clinical diagnosis was quite correct. There was a generalized peritonitis due to perforation of a viscus. The exact cause of the perforation was only found at postmortem examination."

Q.: "Where did you say this perforation is?"

A.: "In the ileum."

OBITUARY

John Joseph Madden, M.D., born in Ireland, February 23rd, 1880; died, Providence, R. I., May 6th, 1931. He was the son of John J. and Winifred Kennedy Madden and was one of five children. He came to this country with his parents when he was three years old and attended the public schools in Massachusetts. Later he entered LaSalle Academy at Waltham, Mass., graduating in 1899. Before taking up the study of medicine he was engaged in various activities, among which was that of trainmaster in Boston at the South Station for some years. In 1908 he entered Tufts Medical College and graduated with the class of 1912. He served eighteen months as interne at St. Joseph's Hospital, graduating in 1913.

He entered private practice in Providence, locating at 99 Governor Street, and in 1915 purchased the property at 116 Governor Street, which he occupied as his residence and office up to the time of his death.

In 1916 he married Elizabeth Veronica Campbell, who survives him. He is also survived by two brothers and one sister. Although not physically robust he had no definite illness until his last which was of about four weeks' duration.

He became a member of the Providence Medical Society March 2, 1914.

Dr. Madden was of a retiring nature, devoted to his profession and his home. He had a large general practice and worked diligently and faithfully regardless of the station in life of his patient or the remuneration which he was to receive. He was a Roman Catholic and attended St. Joseph's Church, Providence. His remains repose in St. Francis' Cemetery, Smithfield Avenue.

Signed

ARTHUR T. JONES, M.D.
JOSEPH L. BELLIOTTI, M.D.
FRANK S. HALE, M.D.

SOCIETIES

PROVIDENCE MEDICAL ASSOCIATION

The regular monthly meeting of the Providence Medical Association was called to order by the President, Dr. John E. Donley, Monday evening, November 2, 1931, at 8:50 o'clock. The records of the last meeting were read and approved.

Dr. Arthur T. Jones read an obituary of Dr. John J. Madden. It was voted to spread this on the records, send a copy to the family and to the MEDICAL JOURNAL.

Dr. Alex M. Burgess spoke on the Practical Treatment of Diabetes. Methods have changed markedly since insulin came in; fats in especial and the caloric value being kept down. The education of the patient is very important. He gave figures from Joslin showing how the diets have increased since the starvation diet of Allen. The modern diet is interesting to the patient. This high carb.-low fat keeps blood cholesterol down, which they think predisposes against arterio-sclerosis.

In giving insulin vary the site of injection. In pre coma treatment give orange juice or the sweet ginger ale with insulin beforehand. Large amounts of intravenous saline should be used in coma. Sudden coma means insulin shocks. The treatment of gangrene depends on the condition of the circulation usually shown by the pulsation of the dorsalis pedis. In heart disease be chary of insulin treatment. The paper was discussed by Drs. Wells, W. S. Streker and Burgess.

Next on the program was a discussion of Late Syphilis. The cardio-vascular system was covered by Dr. Marshall N. Fulton. Involvement of this system averages about 16 years from the initial lesion for appearance. He discussed aortitis as the major aspect of this condition and by a series of slides showed its pathology and discussed its treatment.

Dr. Francis M. Thurmon, clinical Professor of Dermatology, Tufts Medical School, covered the nervous system. He stated that the cases treated in large clinics showed they had been handled ineffectively and not intensively in the early stages. He gave figures showing enormous numbers of people with neuro-syphilis and discussed the various types with their signs and symptoms. Routine lumbar punctures should be done and early in the disease. The arsenical and heavy metal treatments give good results, making fever treatments unnecessary in most cases. This latter is intensive and quick. It is followed by arsenicals.

Dr. Clifford L. Derick, Assistant Professor of Medicine, Harvard Medical School, spoke on the Viscera. He devoted most of his attention to the stomach. The symptoms are due to a fibrosis and anti-syphilitic treatment is indicated. If the cases

are cancer they are inoperable when recognized so time can be taken for treatment.

Syphilis of the liver should not be treated with arsenicals. Syphilis of the other viscera with the exception of the rectum is rare.

The discussion was continued by Dr. Clifton Leech.

The meeting adjourned at 11 P. M. Collation was served. Attendance 152.

Respectfully submitted,

PETER PINEO CHASE, *Secretary*

BOOK REVIEW

THE GREAT PHYSICIAN—A short life of Sir William Osler. By Edith Gittings Reid. Illustrated. 299 pp. New York: Oxford University Press.

The "Osler Tradition," as it has been so aptly described, has grown apace in the twelve short years which have elapsed since the death of Sir William Osler, and its literature comprises volumes and articles in such profusion that a simple list of them covers some twenty pages. The volume under consideration is an interesting addition to that literature, and it attempts to present, in brief compass and in popular style, the life and the essential character of one who has become the most inspiring figure in American medicine. The title might more aptly have been "The Beloved Physician," had not that title been pre-empted by another biographer, for Osler seemed to inspire love and affection wherever he went; in fact, this genius for friendship must be counted one of his outstanding characteristics.

It might be thought, and with considerable justification, that Harvey Cushing, in his "Life of Sir William Osler," had done such a superlatively good job that the necessity for any further biography would be open to very grave question. In the introduction to that fascinating story, however, Cushing modestly states that he regards his work as "merely the outlines for the final portrait, to be painted out when the colours, lights, and shadows come in time to be added." We may quite properly differ with Dr. Cushing as to the completeness of his portrait; but here in this little volume are some delightful "colours, lights, and shadows" to be added to the picture.

As a source of new supplementary material, then, the book can well stand on its merits. It is written by one evidently well acquainted with both Dr. and Mrs. Osler. Where Cushing is content to present a wealth of material about Osler and to let the personality of his subject emerge without comment, Mrs. Reid adopts a more direct method of estimation and characterization. This method may have been made necessary by the small size of the biography; whatever the reason, the result is very interesting. It is unfortunate that the book is marred by occasional annoying errors which a subsequent revision will undoubtedly eliminate.

As an introduction to the study of Osler's life and writings this volume is excellent; it is to be hoped that it will stimulate many readers to learn more of this "Great Physician."

MISCELLANEOUS

"SANE" OBSTETRICS

H. J. Epstein and A. J. Fleischer, New York (*Journal A. M. A.*, July 25, 1931), believe that the expectant mother should have the benefits of "sane" obstetrics, rather than conservative or radical obstetrics. Such "sane" obstetrics can be maintained within the sphere of the incompetent though sincere physician and of the competent though overenthusiastic physician, by education of the former as to his limitations and of the latter as to the limitations of his modus operandi. The full cognizance by these two groups of the "obstetric risk" as an actual reality rather than a mere fantasy will temper their judgments, so that the incompetent will not plunge where angels fear to tread, and the overenthusiastic will not belabor the expectant mother with heavy artillery where diplomacy will serve better for her ultimate salvation. The obstetric risk in the authors' study shows that: (1) The morbidity risk in operative obstetrics was to that in nonoperative obstetrics in the ratio of 5:1. (2) The mortality risk in operative obstetrics was to that in nonoperative obstetrics in the ratio of 30:1. (3) The total infant mortality risk in operative obstetrics was to that in nonoperative obstetrics in the ratio of 3.6:1 (including spontaneous deliveries of macerated fetuses, premature infants and monstrosities). The mother of today is as fully

equipped, mentally and physically, to undergo the hardships of labor as was the mother of yesteryear. A sound realization of this fact, together with a full cognizance of obstetric risk, will diminish the search for new fads to shorten labor and thereby result in a diminished maternal and infant morbidity and mortality.

HEALTH, MUSIC AND PROSPERITY

Under the title of Health, Music and Prosperity, a magazine primarily devoted to professional musicians and to the "homes of progressive people where musical culture is looked upon as an indispensable life asset" has distributed a pocket size "normal food chart advocated by noted physicians, food experts and nutritional chemists." This document alleges that

> music has an important bearing upon the health and prosperity of all. Nothing excels music in keeping up the spirits. The tired business man who can come home and spend an hour at the piano keyboard, instead of burning up his energy and initiative with worry, is far better equipped to meet the problems of tomorrow.

This sounds like commendable advice, particularly when it is properly discounted for the mild hyperbole that any enthusiast may be pardoned in expressing with regard to his vocation or to his favorite avocation. However, the admonitions do not end with experiences derived from the domain of music. The chart proceeds with this vigorous reminder: "Make up your mind whether you are to have a starch meal or a protein meal. Never mix the two groups at the same meal." This seems to be a survival of the idea fostered by many food fanatics intimating that "a mixture of certain foods is certain poison." In a discussion of health superstitions, the author has recently indicated how the belief that it is dangerous to eat fish and celery at the same meal is one of the popular food combination ideas, others being that it is dangerous to eat lobster and cream, strawberries and cream, proteins and carbohydrates, pickles and peaches, and indeed all sorts of other combinations, according to individual notions. Our daily bread—the staff of life for countless thousands—is a mixture of proteins and starch. Are we to believe that the "experts" would interdict bread or any of the comparably composed cereals that form the main source of energy for so many of the peoples of the world? According to the musically promoted advice, the idea is "not to mix the foods that produce noncompatible digestive solutions." By way of interpretation we are told that "carbohydrates require an alkaline solution provided by nature for digestion. Meats and acid fruits require a natural acid solution." As a matter of fact, modern biochemists assure us that starch (and sugar) digestion can proceed favorably in a medium that is practically neutral (p_H 7.0); and, of course, any tyro in the subject knows that proteins undergo a series of digestive changes in the alimentary tract, some in the acid medium of the stomach, others in the quite different reactions of the intestine. One might almost suppose, from the musical warning, that nature had made a serious mistake in the organization of our marvelous digestive functions. Nor is this all. We are specifically reminded by the chart that "milk is a protein" and should be consumed with this limitation in mind. What will the dairy industry reply to this oversight of the carbohydrate milk-sugar, which constitutes about one fourth of all the energy in "nature's most nearly perfect food"? Even skimmed milk cannot get away from its constituent lactose. And then there is the warning that fruit salads should be taken only with protein meals. But why go further? There comes the reminder "Shoemaker, stick to your last." Before modern scientific dietetics anybody was entitled to a hearing on the subject of foods. Now scientists realize the special knowledge that is necessary for sound judgment, but quacks exploit the public ignorance and the public's interests. — *Jour. A. M. A.*

DIABETIC COMA WITH MARKED HYPERGLYCEMIA AND RECOVERY

P. A. Gray and W. D. Sansum, Santa Barbara, Calif. (*Journal A. M. A.*), report a case of diabetic coma with the marked initial hyperglycemia of 900 mg. per hundred cubic centimeters of blood. Recovery followed intensive insulin management.